CLAIMS

1. A method for ascertaining network topologies, the method comprising the steps of:

transmitting a request message from a first network node to at least one second network node connected to the first network node;

entering, via the second network node, an associated node number in the network into the request message;

forwarding, via the second network node, the request message to at least one third network node connected to the second network node;

forwarding the request message until all network nodes arranged in the network and all connecting lines connecting the network nodes have been passed through;

transmitting the request message back to the first network node; and

storing the network topology information available in the form of the node number entered in the request message.

2. A method for ascertaining network topologies as claimed in Claim 1, the method further comprising the steps of:

entering, via the third network node, an associated node number of the third network node into the request message again in cases in which the node number of the third network node already has been entered in the request message; and

sending, via the third network node, the request message back to the second network node.

3. A method for ascertaining network topologies as claimed in Claim 2, the method further comprising the steps of:

entering, via the second network node, the node number of the second network node into the request message again; and

forwarding, via the second network node, the request message to a further third network node.

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4.   A method for ascertaining network topologies as claimed in Claim 3, the method further comprising the steps of:

transmitting, via the second network node, the request message back to the first network node in cases in which the second network node has no connecting lines to further third network nodes.

5.   A method for ascertaining network topologies as claimed in Claim 1, wherein the request message is transmitted via a signaling connection within the network.

6.   A method for ascertaining network topologies as claimed in Claim 1, wherein the information about the network topology is stored in tabular form, with two node numbers entered in succession in the request message being respectively converted into an entry of the table.

7.   A method for ascertaining network topologies as claimed in Claim 6, wherein the table is stored in a central data processing device connected to the first network node.

8.   A method for visualizing a network topology, the method comprising the steps of:

developing a network topology in the form of a tree structure from a table which represents the network topology and comprises information about network nodes and connecting lines of the network;

using the tree structure to ascertain whether the network topology comprises an annular network;

developing the network topology from the annular network which comprises a greatest number of network nodes if the network topology comprises an annular network; and

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developing a network topology in the form of a chain-like network if the network topology does not comprise an annular network.

9.   A method for visualizing a network topology as claimed in Claim 8, wherein, to develop the tree structure, starting from a first network node as a root of the tree structure, second network nodes for which there is an entry available in the table's row associated with the first network node are arranged in a next hierarchical level of the tree structure, and connections from the first network node to the second network node are then inserted, wherein, starting from one of the second network nodes, third network nodes for which there is an entry available in the table's row associated with the second network node are arranged in a further next hierarchical level of the tree structure, ignoring those columns which are associated with a network node which already has been taken into account, and connections from the second network node to the first and third network nodes are then inserted, and wherein the method is continued until all rows in the table have been processed.

10.   A method for visualizing a network topology as claimed in Claim 8, wherein to ascertain whether the network topology comprises an annular network, a bi-directional path which has the most network nodes within the tree structure is ascertained.